

WILSON SONSINI

Joseph Swabeck

PATENT AGENT

Patents and
Innovations

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FOCUS AREAS

Clean Energy
Diagnostics, Life Science
Tools, and Deep Tech
Intellectual Property
Life Sciences
Patents and Innovations
Semiconductors

EXPERIENCE

Dr. Joseph Swabeck is a patent agent at Wilson Sonsini Goodrich & Rosati, where he focuses on patent prosecution and intellectual property matters in the fields of chemistry, novel materials, optics, 3D printing, and next-generation computing.

Joseph has a broad scientific background, having performed research in a variety of fields from organometallic synthesis development to detectors for high-energy physics experiments. During graduate school, Joseph worked under Dr. A. Paul Alivisatos, focusing his research on luminescent nanoparticles, general materials development, and next-generation energy conversion materials. His dissertation focused on both using surface sites of quantum dots to induce energy transfer to luminescent dopants and methods to remove those same surface sites.

CREDENTIALS

Education

- Ph.D., Chemistry, University of California, Berkeley
- B.S., Chemistry, California State University, Long Beach
Minor in Mathematics, Summa Cum Laude

Admissions

- U.S. Patent and Trademark Office

INSIGHTS

Select Publications

- Co-Author, "Redefining Near-Unity Luminescence in Quantum Dots with Photothermal Threshold Quantum Yield," 363(6432) Science, 2019
- Co-Author, "Broadband Sensitization of Lanthanide Emission with Indium Phosphide Quantum Dots for Visible to Near-Infrared Downshifting" 140(29) JACS, 2018
- Co-Author, "Essentially Trap-Free CsPbBr₃ Colloidal Nanocrystals by Postsynthetic Thiocyanate Surface Treatment," 139(19) JACS, 2017
- Co-Author, "Copper-Mediated Difluoromethylation of (Hetero)aryl Iodides and β -Styryl Halides with Tributyl(difluoromethyl)stannane," Angewandte Chemie, 2012
- Co-Author, "Ligand Mediated Transformation of Cesium Lead Bromide Perovskite Nanocrystals to Lead Depleted Cs₄PbBr₆ Nanocrystals," 139(15) JACS, 2017
- Co-Author, "Precise Tuning of Surface Quenching for Luminescence Enhancement in Core-Shell Lanthanide-Doped Nanocrystals," 16(11) Nano Letters, 2016
- More publications from Dr. Joseph Swabeck can be found [here](#).

TECHNICAL FLUENCY

Biological Sciences and Biotechnology

- Metabolomics
- PCR
- Proteomics

Diagnostics and Medical Devices

- Bioinformatic
- Biosensors

Chemistry and Material Science

- Chemistry
- Green chemistry
- Materials chemistry
- Nanochemistry
- Photovoltaic materials

Engineering and Technology

- 3D bioprinting
- AI
- Materials science
- Mechanical engineering
- Nanorobotics

Miscellaneous

- Fluorescence microscopy
- Physics